# M1

## PASSTHROUGH DISHWASHER

# Operator Manual

# Foreword

## User documentation

Please read this manual and keep it in a safe place for future reference.

**WARNING**
Before installation and commissioning, you must read the safety instructions and warnings carefully and all the warning labels attached to the equipment.

**IMPORTANT**
Failure to comply (even partially) with the instructions given in this manual will invalidate the product warranty and relieves the manufacturer of any responsibility.

**IMPORTANT**
The alteration of machine operation, design or the replacement of parts not approved by the manufacturer may void warranties and approvals.

## Warranty Registration

Complete the information below for quick reference.

Model Number_____Serial Number_____

Purchased from_____ Date of Purchase_____

If you require further information regarding authorised service providers or recommended detergent suppliers in your region, or have any other queries, please do not hesitate to contact us.

**IMPORTANT**
TO VALIDATE YOUR WARRANTY, PLEASE COMPLETE AND RETURN THE WARRANTY REGISTRATION CARD WITHIN 30 DAYS FROM THE DAY OF PURCHASE.

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# Safety Instructions

**WARNING**

Equipment contains dangerous voltages and can be hazardous if installed or operated incorrectly. Non-compliance with **Warnings** or failure to follow the instructions contained in this manual can result in loss of life, severe personal injury or serious damage to property.

**Installation**

- Use qualified, skilled personnel
- Follow installation instructions
- Connect to correct voltage and supply current
- Provide fully accessible Electrical Isolation Switch

**Training and Supervision**

- Read and Understand the Operating instructions
- Train all staff
- This appliance is not intended for use by young children, who must be supervised to ensure they do not play with the appliance
- This appliance is not intended for use by infirm persons without supervision
- This appliance is not intended for use as a stepladder

**Hot Surfaces**

- Be aware some surfaces can be hot

**Chemicals**

- Commercial dishwashing detergents are hazardous
- Read and follow the safety information found on the labels of detergent containers and Material Safety Data Sheets
- Handle with care
- Use protective eyewear and clothing if decanting containers

**Hot Water**

- Door safety switches are designed for emergency use only
- Wait for the green cycle light to go out before opening the door
- Wash water is 60°C and contains caustic detergent so DO NOT put hands in wash water

**Cleaning**

- DO NOT hose down the machine or splash water over the exterior
- Watch for broken glass etc when cleaning the inside of the machine

# Installation

**WARNING**
Installer must be suitably qualified and ensure compliance with all local codes and standards including AS/NZS 3500.1.

Failure to comply even partially with installation instructions may void the warranty.

## Positioning

Unpack machine, check for damage and complete delivery. Install machine on sound waterproof self-draining floor and use adjustable feet to level machine. Allow room for detergent to one side of machine or in adjacent cupboard. 20litre container requires about 450H x 250W x 350D, but smaller containers are available from many suppliers.

## Benchwork

Refer Bench Details drawing. For corner installations front of machine must face to the left of the corner. In corner installations high or angled bench return off wall may clash with door handle. Level and secure machine and benches. Adjust to ensure smooth travel of rack through machine.

## Hot Water

| | |
|---|---|
| Water temperature | 65°C ± 5°C |
| Connection | 20 mm (3/4" BSP) male |
| Flow rate minimum | 20 litres per minute |
| Hot water consumption | 3 litres per cycle approximately |
| Backflow prevention | Vacuum Breaker fitted standard |
| Pressure | 200-400 KPa = 30-60 Psi. |

Above this range fit pressure limiter. Don't use small diameter plastic supply lines. FLUSH supply line before connection. Poor quality supply or excessive water hardness may affect performance or damage machine – filtration and/or softening is recommended.

## Waste

40 mm gravity drain – refer point B on installation diagram – run waste directly behind the machine, through knockouts in side panels or through hole in base.

## Power

Electrical supply required is single phase 230V 22A 50Hz, permanently wired via wall switch mounted adjacent to machine. Machine may also be installed on a 15A single phase circuit (with reduced rinse heating). For this requirement remove double adaptor and Red 0.75 wire from rinse over-temperature thermostat and reconnect Red 1.5 mm wire to the over-temperature thermostat.

## Detergent

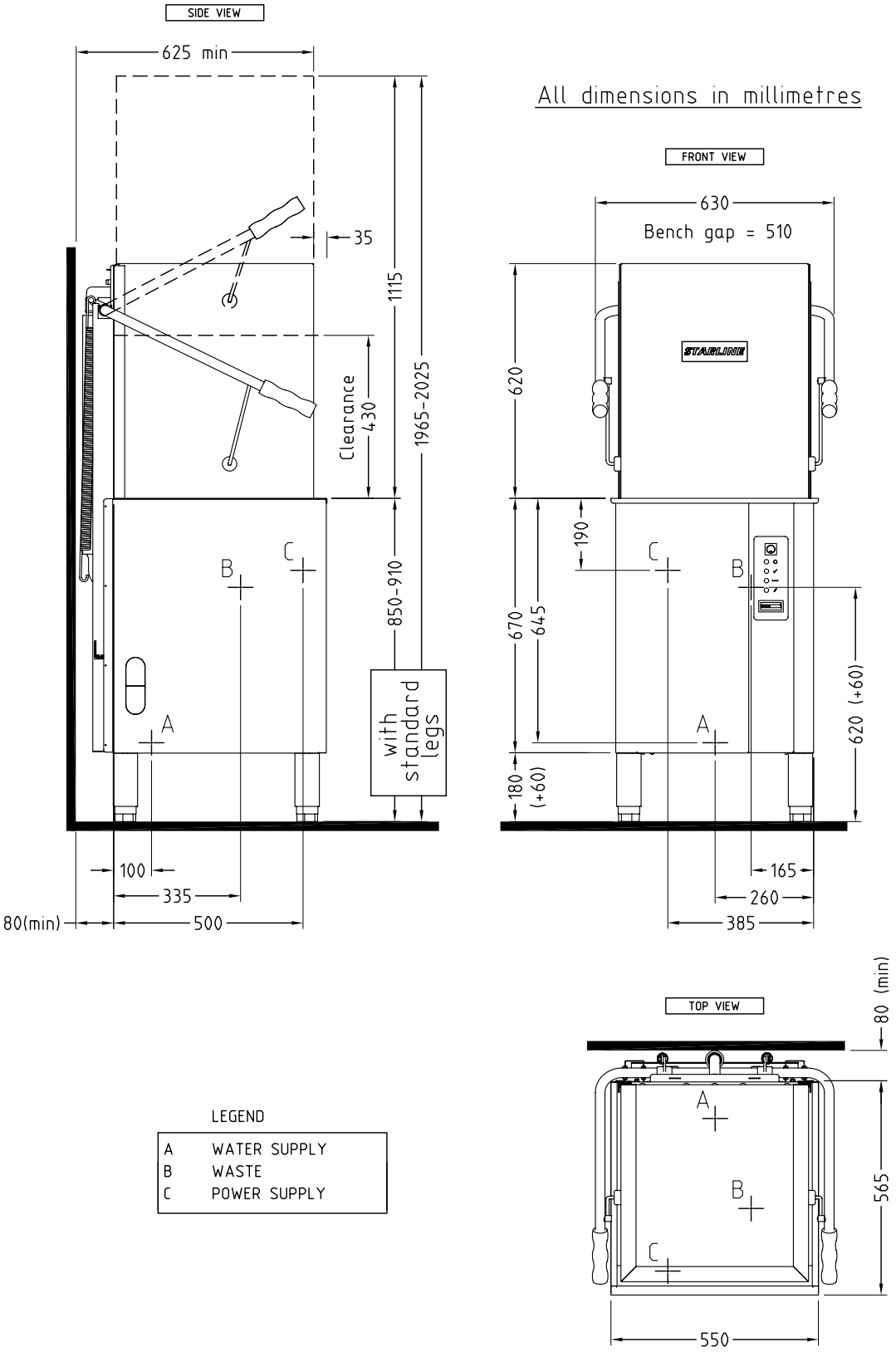
Insert detergent pump inlet hose into container of commercial low foam detergent. Open machine door and switch machine on. Press and hold detergent prime switch behind front cover until chemical flows into machine.

## Installation Checklist

Complete attached Installation Checklist to ensure machine is installed and running correctly, and operator is familiar with operating procedures.

# M1 (S) INSTALLATION DIAGRAM

M1S 23-01-08 3C

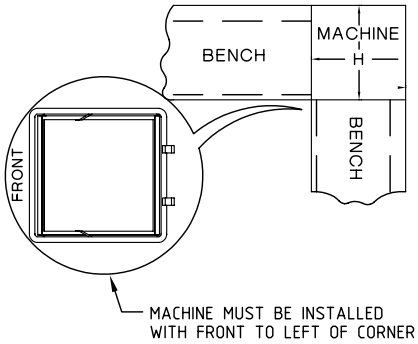


# AL/M2/ME/M1 BENCH DETAILS

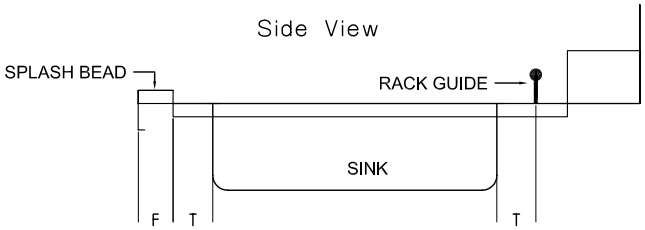
M2 0006 22-06-07 1 I

| | | M1 | M2/ME | AL | AL8 |
|---|---|---|---|---|---|
| M | BENCH DEPTH<br>MINIMUM - for straight through only | 600 | 700<br>(650) | 750<br>(700) | 750<br>(700) |
| R | RETURN<br>MINIMUM - for straight through only | 115 | 125<br>(90) | 150<br>(125) | 150<br>(125) |
| G | BENCH GAP | 510 | 595 | 640 | 790 |
| B | BENCH OPENING | 460 | 535 | 550 | 550 |
| F | SPLASH BEAD<br>MINIMUM | 25 | 40<br>(25) | 50<br>(25) | 50<br>(25) |
| D | RACK SIZE | 435 | 500 | 500 | 500 |
| E | RACK PATH | 450 | 520 | 520 | 520 |
| S | SINK WIDTH | 350 | 450 | 450 | 450 |
| T | CLEARANCE | 35 | 35 | 35 | 35 |
| H | DISTANCE TO WALL<br>FOR CORNER INSTALLATION | 620 | 720 | 760 | N/A |

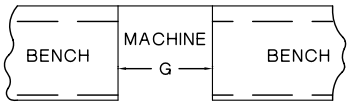
Corner Detail



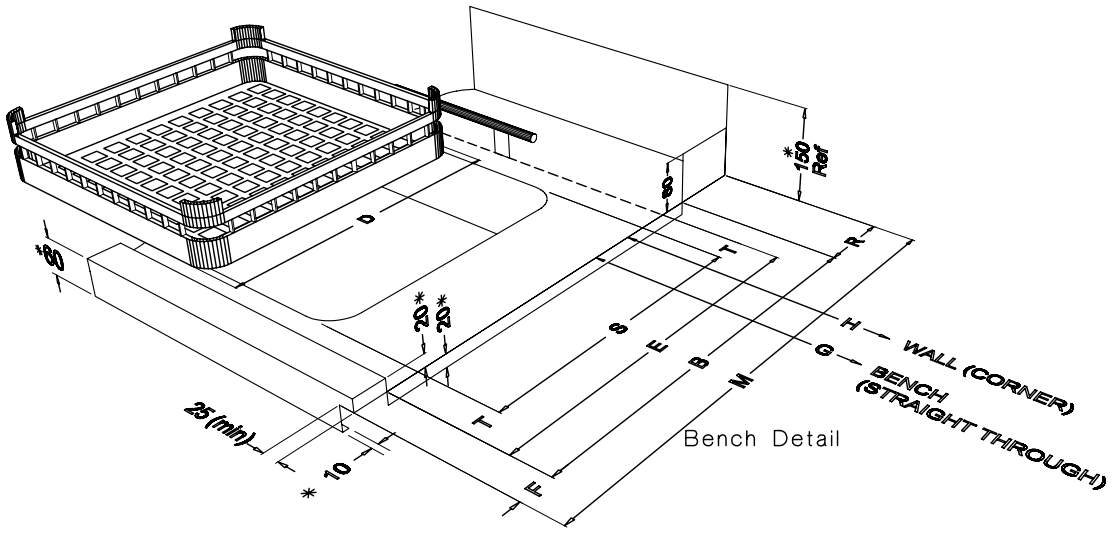

Side View




Straight through detail




All dimensions in millimetres




Bench Detail

Notes:

1. These dimensions are recommendations. They apply to straight through or corner installations. They are designed to ensure that the dishrack slides over an adjacent sink directly into the dishwasher. We recommend use of the sink size shown and a rack guide to keep the rack up against the splash bead and prevent it from falling into the sink. This arrangement is particularly suitable when a pre-rinse gun is used (as recommended).

2. Bench depth can be reduced by reducing the size of the splash bead and in straight through installations (only) dimension R can be reduced to the minimum shown.

3. Drawing is for the left of the machine - other side is mirror image (sink may be to either side.

4. Dimension with ✳ are suggestions only and not critical.

# Installation Checklist

| CHECK | OK / NOTES | |
|---|---|---|
| **Delivery** | | |
| Supplied complete | | no transit damage |
| **Position** | | |
| Level and stable | | on sound, waterproof, self draining floor |
| **Water** | | |
| Isolator valve fitted | | Accessible, all fittings sound, no leaks |
| DCVs fitted (Washtech only) | | Correct direction |
| Temperature | | 65 ± 5°C |
| Flow rate | | Minimum 20 litres per minute |
| Pressure | | 200-350 kpa, limiter fitted if above this range |
| | | Booster fitted if below this range |
| Cold water when required | | Pressure not above 350 kpa |
| Hardness | | Filter or softening if required |
| **Power** | | |
| Isolating switch | | Fitted, functional and accessible |
| Supply as specified | | Voltage, current, circuit breaker |
| **Waste** | | |
| Usually 40 mm | | Sound, no leaks |
| Air gap on pumped drain | | Very important GLV and UD models |

**Chemicals**

| | product name | | container | no leaks | primed | conc.OK |
|---|---|---|---|---|---|---|
| Detergent | | | | | | |
| Rinse Aid | | | | | | |

| | | |
|---|---|---|
| **Machine operation** | | |
| Run several cycles | | |
| Confirm correct operation | | Including correct fill levels |
| **Operator training** | | |

Confirm Operator has copy of Operator Manual and is familiar with procedures

| | |
|---|---|
| Start-up | |
| Pre-rinse and racking | |
| Machine operation | |
| Drain | |
| Clean | |
| Shut-down | |

| | |
|---|---|
| Model / Serial | |
| Owner | |
| Location | |
| Technician | |
| Date | |
| Signed | |

# Dishwashing Procedures

**for best results**

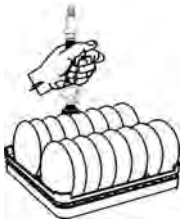
Note: these are general instructions to assist in getting the best performance from Starline dishwashers – some comments and / or illustrations may not apply to every unit.

## Installation

Read the Operator Manual. Correct installation, including an adequate supply of water at the correct temperature and pressure is essential for effective operation of your machine. Refer installation instructions for details. Drain hose outlet height is important on some models. Always install on a sound self-draining floor. Water softening is recommended in hard water areas - especially for glasswashing.

## Pre-rinsing

Pre-scraping of dishes is required by hygiene regulations. The best method is to pre-rinse with a pre-rinse spray unit - or alternatively by scraping or dunking in water.



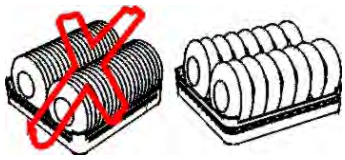
## Cutlery Procedures

Pre-soak cutlery in warm water, preferably containing cutlery pre-soak compound - refer your chemical supplier.

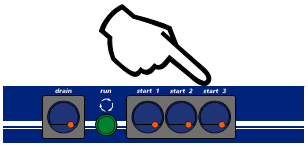
Do not overfill cutlery containers. Cutlery should be loose with handles down. Sort after washing rather than before. Cutlery of only one type nests together and obscures wash water.

## Racking Procedures

Do not overload racks, minimize the overlap of crockery. Cycle times are short and water consumption per cycle low - so there is no advantage in overloading racks.



## Cycle Times




For multi-cycle machine use the longest cycle whenever possible. Note that water consumption does not increase with longer cycles. Only choose shorter, faster cycles when necessary.

## Detergent

Use of correct type and quantity of low foaming commercial grade detergent is essential to the performance of the machine. We strongly recommend that you use a professional dishmachine chemical supplier - and will be pleased to recommend a supplier in your region. Discuss with them the use of cutlery pre-soak solution, detergent and drying agent.

# Dishwashing Procedures

**for best results**

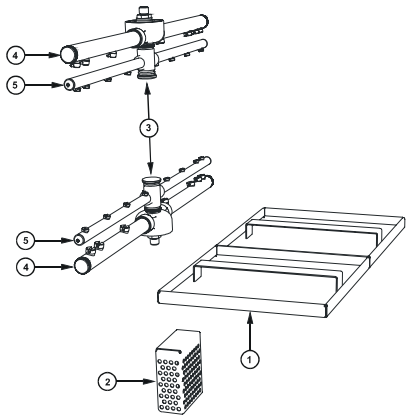
## Drying

Single tank commercial dishwashers do not have a drying cycle. However, the machines do rinse at high temperatures which promote fast drying particularly when drying agents are used. We recommend prompt removal of the rack from the machine - leave the rack on the bench for 2 to 3 minutes before emptying. This time will be reduced with correct use of drying agent (rinse fluid) which reduces water surface tension and allows water to drain quickly from washware. For advice on drying agents and injectors refer to your chemical supplier.

## Daily Cleaning

It is essential that the machine is drained and cleaned at the end of each day. Drain the machine then remove, clean and replace filters as per the operating instructions. Regularly check the wash and rinse jets and clean them if necessary – see below.

## Regular Cleaning




Remove scrap trays① and wash pump inlet filter②, where fitted, and rinse or brush clean.

Remove wash and rinse arms by undoing the central thumbscrews③. If necessary, remove the end cap screws④ from the wash arms and the end screws⑤ from the rinse arms and flush the arms with water and/or use a toothpick or paperclip to clear jets.

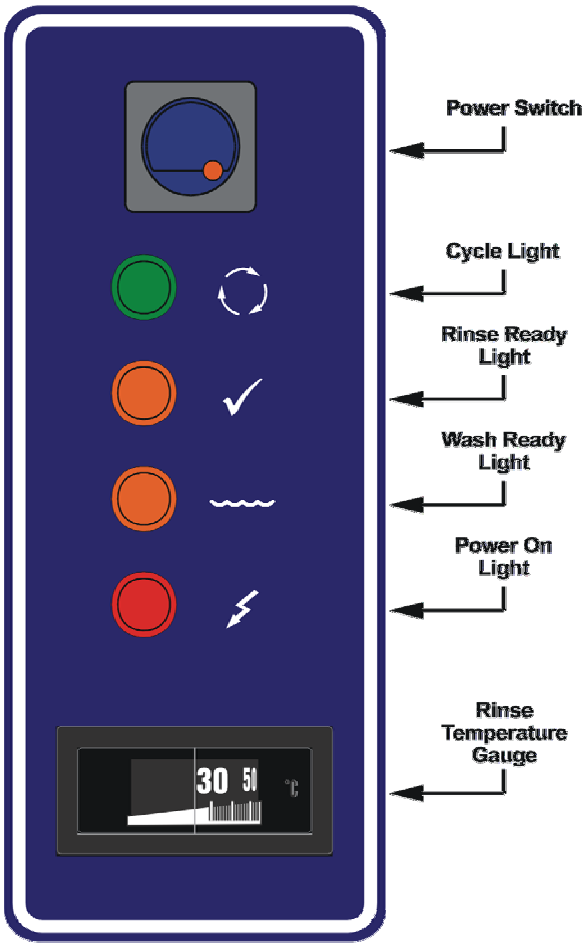
Note: arms and filters vary with model and may appear different from this illustration e.g. those models with plastic wash arms have removable jets for ease of cleaning.

## Regular Servicing

Regular servicing of the dishwasher is absolutely essential to keep the machine in top working condition and obtain the best performance.

Please contact Washtech or your Authorised Service Provider to organize regular servicing of the dishwasher - discuss a Preventative Maintenance Agreement for optimum performance and long machine life.

Note: these are general instructions to assist in getting the best performance from Starline dishwashers – some comments and / or illustrations may not apply to every unit.




**Start up**

Fit drain upstand, wash pump filter, scrap tray and shut door.

Turn wall and machine power switches on.

Power light glows red and machine fills automatically.

Wash Ready light glows amber when wash tank is ready.

Rinse Ready light glows amber when the machine is up to required temperature and ready to run.

**Operation**

Load rack into machine and close door to start the machine.

Cycle light glows green during 2 minutes cycle of operation. When Cycle light goes out, cycle is complete.

Open door and remove rack.

**After removing rack from machine, DO NOT shut door as machine will start up again.**

NOTE: Machine will not operate unless Ready lights are on.

**Shut down every night**

Turn machine and wall power switches off.

Remove drain upstand to drain wash tank.

Remove scrap tray and wash pump filter and rinse clean.

Replace drain upstand, filter and scrap tray.

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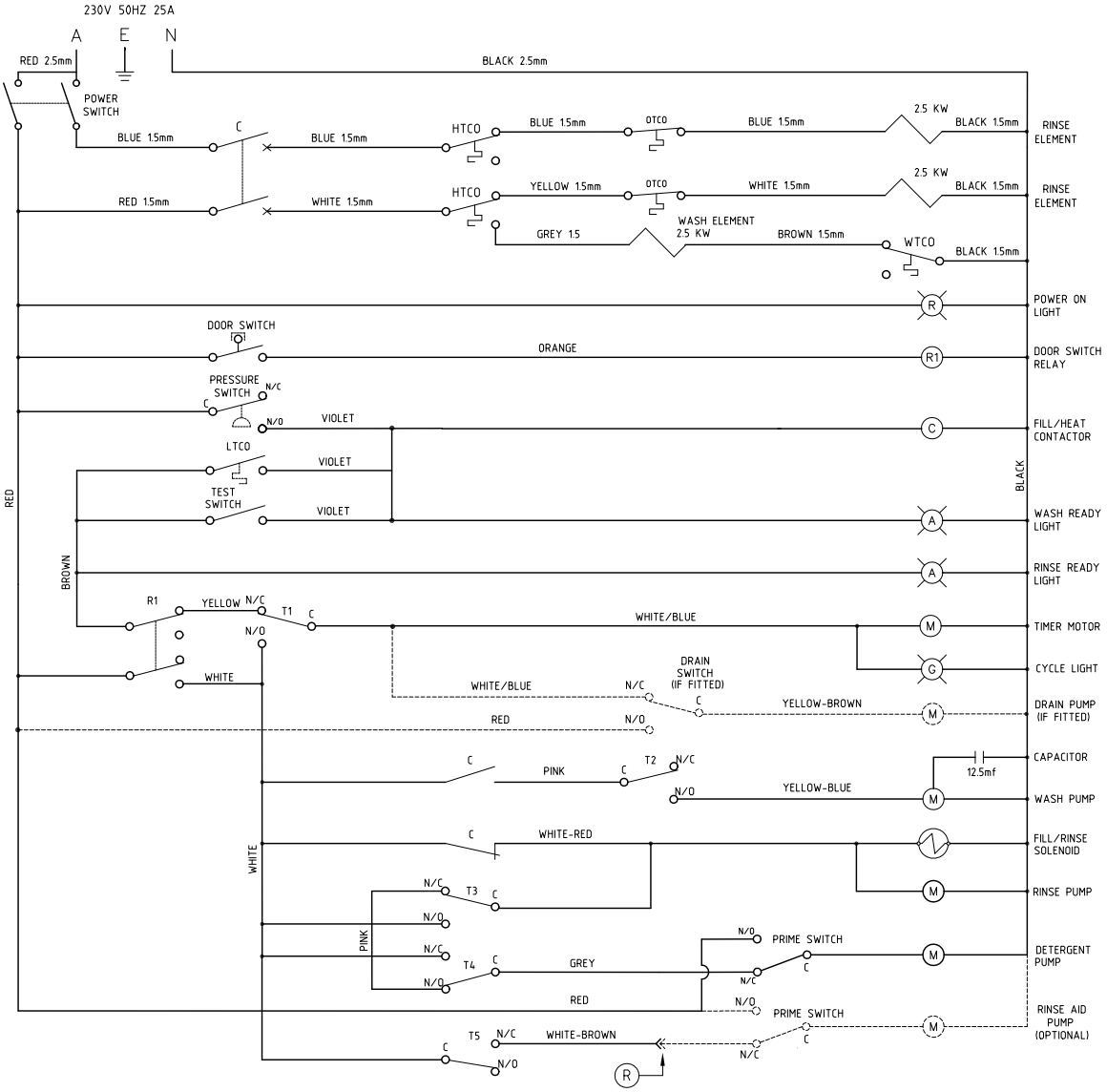
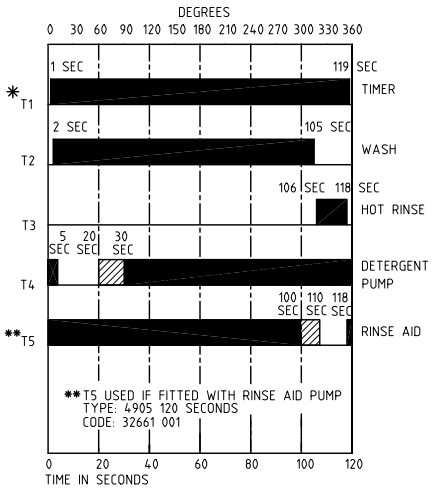



## DETERGENT AND RINSE AID CONNECTION OPTIONS

1. Cycle active feed
   - refer main terminal block for all connections

2. Timer cam controlled feed
   - Main Power Active - refer main terminal block
   - Neutral - refer main terminal block
   - Earth - refer main terminal block
   - Rinse Aid Active - refer R - connection wire provided




*T1 IS CAM CLOSEST TO 180 SEC. TIMER MOTOR

KEY
- ADJUSTABLE CAM
- PRESET CAM

**T5 USED IF FITTED WITH RINSE AID PUMP
TYPE: 4905 120 SECONDS
CODE: 32661 001

# Warranty

**WASHTECH** warrants that new STARLINE products are free from defects in material or workmanship for a period of one year from the date of purchase.

**EXTENT OF WARRANTY**

- Washtech shall repair or, at its discretion, replace any part of the machine found to be defective.
- The labour for the repairing or the replacement of defective parts shall be provided during normal office hours at no cost to the user.
- Washtech shall not otherwise be liable for any other loss or damage arising out of any person's use or inability to use the machine.
- Washtech shall not be liable for the cost of work done outside normal office hours, and for travel costs outside regional centres.
- Washtech shall not be liable for detergent related issues, including detergent pump adjustment or squeeze tube replacement, drain pump blockages and other related damages.

**CONDITIONS OF WARRANTY**

**This warranty shall not be binding on Washtech unless the warranty registration card is completed and received by Washtech within 30 days from the date of purchase**

**This warranty shall be void if:**

- The equipment has not been properly installed by an authorised Washtech Service Provider.
- Persons other than Washtech Service Providers have undertaken repairs or attempts at repair.
- The equipment has not been operated and maintained in accordance with the Operator Manual.
- Damage has resulted from shipment, handling, fire, water, accident, abuse, detergent equipment fitted by others or any other event beyond the control of Washtech.

**Any defect must be notified to Washtech or its authorised dealer within 30 days of the discovery of the defect.**

**IF YOU WISH TO MAKE A WARRANTY CLAIM**

- First check the things you can do for yourself. Refer to the Operator Manual provided to ensure that the machine is correctly installed and that you are familiar with its operation. If a service technician calls and determines that the equipment is not defective you will be charged with the cost of the call-out.
- If you need service during the warranty period, first contact the dealer from whom you purchased the equipment. The Dealer will arrange service by Washtech or an authorised Starline Service Provider.
- If you have a problem contacting your dealer or if your dealer is unable to assist, then please contact the Service Department, Washtech, telephone 09 829 0923.
- When you write or call you will need to provide your name and address, the model and serial number (refer lower front cover) and the date of purchase so that your warranty claim may be validated.

# Notes